Videorecorder
OC 3820 H

Art.-Nr. 53532

S VHS VHS

PAL
625

SHOWVIEW

Bedienungsanleitung
Instrucciones de uso
Operating Instructions
Mode d'emploi
Gebruiksaanwijzing

VQT5872

LOEWE.

Dieses Blatt bitte aufklappen
Abrir ésta página, por favor
Please open out this page
Ouvrez cette feuille s.v.p.
Deze bladzijde openklappen a.u.b.

Bedienungsanleitung – in Deutsch	Seite	4-32
Instrucciones de uso – en Español	Pagina	33-62
Operating instructions – in English	Page	63-92
Mode d'emploi – en Français	Page	93-122
Gebruijksaanwijzing – en Nederlands	Pagina's	123-152

Video Recorder OC 3820 H

Operating Instructions

Art.-Nr. 53532

S VHS VHS

PAL

625

SHOWVIEW

English

Safety, cleaning, maintenance

For your safety

This equipment has been designed and manufactured to meet international safety standards. But, like any electrical equipment, care must be taken especially to assure electrical safety.

So do ensure that all electrical connections, including the mains plug, extension leads and the interconnections between pieces of equipment are properly made and in accordance with this operating manual.

Do consult your dealer if you are ever in doubt about the connection, the working or the safety of your equipment.

Do not continue to operate your equipment if you are in doubt about it working normally, or if it is damaged in any way. Switch off, withdraw the mains plug and consult your dealer.

Avoid burning or electric shock, which is dangerous to life, by keeping your equipment away from moisture and water.

Never remove any fixed cover, as this may expose parts with dangerous voltages.

Do not leave your set useless connected to the mains, when not using it for a longer period.

When disconnecting from mains, always grip the mains plug, never the lead.

Do not cover the ventilation slots, e.g. with a curtain. Overheating would happen and this would shorten the life of the equipment.

Above all, take care that nobody ever, especially no children, push anything into holes, slots or other openings in the equipment. This could result in a fatal electric shock.

Never guess or take any chances with electrical equipment of any kind. Leave it to the specialist. Because: Safety first!

Note: The operate switch ⏻ (2) of the video recorder is secondarily connected and does not separate the apparatus from the mains supply in the switched off position.

This product is manufactured to comply with the radio interference requirements of EEC Directive 76/889/EEC, 82/499/EEC and 87/308/EEC.

Cleaning and maintenance

Only ever clean the housing with a cloth moistened very slightly or using a special plastic cleaning agent. Never use solvents such as spirit, petroleum or thinner.

Now, cleaning the cabinet has the least influence on long term reliability of your video recorder. Here, care of the tape running mechanism inside the recorder is much more important. The recorder should be taken to a specialist dealer regularly for maintenance and cleaning. If the recorder is put to normal use, we recommend doing this once annually, but at the latest when you are no longer satisfied with the picture.

Under no circumstances you should attempt yourself to clean the heads, if only for the reason that you would have to open the housing to do so, thus exposing live parts.

Improper use of cleaning cassettes may damage the heads. Consult your dealer before you decide to use such cassettes.

Video head cleaning

Anytime when you insert a cassette, or when you switch the video recorder on or off while a cassette is inserted, the video head cylinder will be cleaned automatically. This avoids the concentration of dirt on the video heads and on the cylinder. The good picture quality will last a long period of time.

Introduction

Thank you and congratulations for your decision for a Loewe video recorder, which fulfils your high demands for design and technology.

When developing this recorder we emphasized on reaching the perfect image and sound quality. Additionally we tried to fulfil all possible demands for features. Just to name a few:

- perfect image quality during S-VHS and VHS operation.
- the automatic tape adaptation (AI) allows the perfection of your recordings and playbacks.
- hifi stereo for excellent sound quality.
- four video heads ensure a good still image with jog shuttle control.
- the built in editing computer copies from a corresponding camcorder or to a second video recorder.
- the time base correction (TBC) allows stabilized playback of weak recordings.
- easy location of tape positions with automatic and manual index markings, which even can be erased.
- you can enter up to eight ShowView timer recordings into the remote control and transmit them into the video recorder.
- covered installation is possible, because the remote control can be operated through the infrared receiver of a connected Loewe TV set.

This operating manual

You should take some time to read this manual. This helps you to learn all about your new video recorder step by step.

The brief description on page 66/67 will help you to recall the control of the seldom used settings.

The fold-out pages 3 and 154 contain a picture of the remote control and the video recorder. They should be opened out during the reading of this manual. All control elements and connectors are numbered. These numbers are explained starting from page 86. Throughout this manual they will always be stated in brackets.

A glossary on page 91 wants to help you to explain the special terms, which could not always be avoided.

On page 92 you will find an index register. It should later help you to locate informations, as well as it is thought for the specialist, who is only looking for details.

We want to wish you a lot of joy and video fun with your Loewe.

Register

Picture remote control 3

Security, cleaning, maintenance 64
Introduction 65
Brief descriptions 66,67

Connection 68
Preset of the TV set 69
Remote control 70
Setting date and time 71

Playback, winding 72
Slow motion, standard, TBC/AI 73
Index, tape counter 74

Station preset 75

Recording, cassette 76
Decoder, audio, index 77
Timer recording, ShowView 78
Guide number, input 79

Dialog control, language 80

Copying, connection 81
Insert, audio dubbing 82
Manual editing 83
Programmed editing 84
Preview, Review 85

Picture explanation 86-88
Trouble shooting 89
Specifications 90
Glossary 91
Index register 92
Loewe service 153

Picture video recorder 154

English

Brief description

This summary shall provide you a fast overview as well as a memo after reading this manual. It contains only the most common usages. All details can be found on the pages stated.

Setting the time page 71

- press CLOCK (32) for more than 2 sec.
- enter year with Y+/– (13)
- month with M+/– (14)
- day with D+/– (15)
- set time with T+/– (16)
- switch on video recorder with ⏻ (2)
- transmit time with TRANS (20)

Switching on and off page 72

- press button ⏻ (2) on the remote control or on the video recorder
- inserting the cassette switches on as well

Playback page 72

- insert video cassette
- start playback with ▷ (5)
- end playback with □ (8)
- remove cassette with CASS (35)

Image search page 72

- press forward ▷▷ (7) or backward ◁◁ (6) shortly during playback
- end it with ▷ (5) or □ (8)
- keep search button depressed: after releasing it playback continues

Winding page 72

- press forward ▷▷ (7) or backward ◁◁ (6) during stop
- press button again: search as long as you keep it depressed
- end winding with stop button □ (8)

Still image, pause page 73

- press button ▯▯ (9) on the remote control or:
- press button ▯▯ (9) on the video recorder and search single images with the jog disc (55). Shuttle ring (54) in center position!
- end it with ▷ (5) or □ (8)

Slow motion page 73

- press button ▯▷ (10) on the remote control during playback
- back to playback with ▷ (5).

Variable slow motion page 73

- press ▯▯ (9) on the video recorder
- remove trembling with TRACKING –/+ (28)
- turn shuttle ring (54) for slow motion to image search forward or backward
- end it with ▷ (5) or □ (8)

Index search page 74

- with VISS (4) forward ▷▷I or with I◁◁ backward to the next index marker. Press it several times to reach further markers.

Tape counter page 74

- call the tape counter with COUNT (3). The video display shows «COUNT»
- use 0000 (48) to reset it to «0:00.oo»

Remaining tape time page 74

- press TAPE (31) several times, until your tape type, e.g. «E240» is shown in the display
- press COUNT (3) several times until «REMAIN» is shown in the display

Station preset page 75

- keep TUNER PRESET (50) depressed for more than 2 seconds (not with A1/A2/A3)
- select programme number with P+/– (12)
- press NEXT (57)
- start station search with P+/– (12)
  or
  enter channel number with number buttons (25)
- store station with NEXT (57)
- end it by pressing TUNER PRESET (50) twice

Immediate recording page 76

- insert a cassette ready for recording
- select programme number with P+/– (12)
- start recording with REC (11)
- interrupts can be made with ▯▯ (9)
- end it with the stop button □ (8)

Record index page 77

- automatically during each recording start and:
- press REC (11) during recording
- press VISS MARK (33) during playback
- minimum distance three (LP five) minutes

Erase index page 77

- search marker with VISS (4)
- when the playback starts press ▯▯ (9)
- press VISS ERASE (30) to erase it

Sleep timer page 78

- press SLEEP (58) several times, until the desired playing time is shown as «OFF» time in the video display

ShowView timer input page 79

- insert a cassette ready for recording
- press button SHOWVIEW (21)
- enter ShowView number with number buttons (25)
- confirm it with button OK (26)
- check the data on the display
- use TRANS (20) to send it into the recorder

Standard timer input page 79

- insert a cassette ready for recording
- select programme number with PR+/– (13)
- date with DATE+/– (14)
- the start time with ON+/– (15)
- the end time with OFF+/– (16)
- use TRANS (20) to send it into the recorder

On screen language page 80

- call the OSD menu with MENU (60)
- use ◈ (61) to select line «SETTING»
- call the menu with ENTER (62)
- use ◈ (61) to select line «LANGUAGE»
- call the menu with ENTER (62)
- use ◈ (61) to select the desired language
- confirm it with ENTER (62)
- switch off the OSD menu with MENU (60)

Copying page 81

- connect the second recorder to AV2 or AV3
- use P+/– (12) to switch to A2 or A3
- start playback on the second recorder
- start the recording with REC • (11)
- use ▯▯ (9) for editing
- end it with the stop button □ (8)

Display/on screen displays

20:15	time
Po.1	programme number 1
2:32:05	tape counter h/min/sec
SP	Standardplay
LP	Longplay
[oo]	cassette in the recorder
A1	input AV1
A2	input AV2
A3	input AV3
VTR	recording from TV with decoder
COUNT	tape counter
REMAIN	remaining tape time
L	left/main sound channel
R	right/secondary sound channel
□	stop mode
▷	playback
REC •	recording
◁◁	rewind/image search backward
▷▷	fast forward/image search forward
▯▯	pause/still image
▯▷	slow motion forward
◁▯	slow motion backward
◱	timer input entered
VISS WRITE	writing index marker
VISS ERASE	erase index marker
STEREO	stereo reception
BILINGUAL	bilingual sound reception
AI	tape adaptation activated
S-VHS	Super-VHS operation
SU	Sunday
MO	Monday
TU	Tuesday
WE	Wednesday
TH	Thursday
FR	Friday
SA	Saturday

Unpacking

Carefully lift your video recorder from its box. Do not forget to remove the remote control as well as the leads. The enclosed accessories are listed on page 90.

It is the best to keep the packing material. Maybe you one day want to use it for transporting your video recorder.

Installation

Your new video recorder is a high performance precision device. Thus you should consider the following facts when selecting a place to install it:

- it should be standing on a stable, horizontal base.
- the ventilation slots in the housing must always remain uncovered. Ensure that there is enough cooling air.
- it should not be placed in direct sunlight or close to a heater.
- do not place any objects filled with water on top of the video recorder
- never bring magnetic objects close to the video recorder or to the cassettes.
- beware of condensate!
  If you carry the recorder from a cold into a warm room, moisture can form inside. In this case connect the recorder to the mains but leave it turned off for at least two hours. This avoids damage of the recorder and your tapes.

English

Connection

Connection to the TV set

Connect AV1 (80) to the Euro socket of your TV set. Use an S-VHS or fully connected Euro lead, which can be obtained from specialised dealers.

If your TV set features an S-VHS input, activate it. In this case the switch (82) on the rear of the video recorder must be set to position S-VIDEO OUT.

S-video/audio lead

If you do not own a Loewe TV set, it might be possible that the Euro socket contains no S-VHS input, but there are dedicated inputs.

In this case connect S-VIDEO OUT (85) and AUDIO OUT R/L (83) to the corresponding sockets of your TV set. The fitting leads are also necessary for copying to a second video recorder and are enclosed.

Antenna lead

The video recorder is equipped with a receiver unit for terrestrial stations. So it needs to be connected to your antenna system:

- Remove the terrestrial antenna lead from your TV set and insert it into the socket RF IN (78) of the video recorder.
- Use the enclosed antenna lead to connect RF OUT (77) and the terrestrial antenna input of your TV set.

Connection for satellite reception

If you want to record satellite stations, which are received by a Loewe TV set equipped with a satellite receiver, the connection with a Euro lead is sufficient.

A satellite receiver should be connected to AV2 (81). If you use a decoder, the antenna connection to RF IN (78) is sufficient.

Connection to a decoder

A decoder, e.g. for PREMIERE is connected to AV2 (81). If the video recorder is switched off, or the display «VTR» is switched off with TV/VTR (24), the decoder works for the station received with the TV set.

If you receive satellite stations with a receiver, the decoder should be connected directly to the receiver.

Connection of a microphone

You can connect a microphone to the socket MIC (75). The insertion of the plug activates it for recording.

Connection to the hifi system

The sound of the video recorder can be played back through your hifi system. Connect AUDIO OUT R/L (83) to the AUX input of your amplifier.

For recordings, you have to make a connection between the amplifier's output, e.g. TAPE OUT and AUDIO IN L/R (72).

Connection to a video recorder

If you want to copy to a second S-VHS video recorder, connect S-VIDEO OUT (85) and AUDIO OUT R/L (83) to the input sockets of the second recorder.

If you want to copy from a second S-VHS video recorder connect the output sockets of the second recorder to S-VIDEO IN (70) and AUDIO IN L/R (72).

If the second recorder is a standard VHS video recorder, use VIDEO OUT (84) resp. VIDEO IN (71) instead of S-VIDEO OUT/IN.

If your second recorder does not feature an AV output, you have to connect it to the antenna input RF IN (78). Search and store the transmitter channel of the playback recorder like a new TV station. If there are distortions one of the two transmitter channels has to be readjusted, e.g. with CH ADJ (79).

Connection to the mains

Insert the enclosed mains lead first into the mains socket (86) of the video recorder and then into a mains socket with 220/230 Volts 50 Hz AC. The STAND BY indication of the video recorder lights up.

Attention: To prevent damage of your devices during thunder storms please remove mains plugs and antenna leads from the wall sockets.

Preset of the TV set

Your TV set receives the video recorder like another TV station. This means you have to select a new programme number for the video recorder.

Make sure to select this programme number, whenever you control the video recorder or want to watch a playback. Only when you have selected this programme number, which we always refer to as AV programme number, you can see the images from the video recorder on your screen.

There are two ways to connect and receive the video recorder:

Video connection

This connection is the most simple and offers the best image quality. Requirement is a connection of video recorder and TV set with a Euro lead.

Refer to the owner's manual of your TV set to find out which reception mode is prepared for AV and select it. In most cases you have to select programme number 0, 00 or AV.

Antenna connection

For TV sets without Euro socket or until you have obtained a Euro lead, you have to set the video recorder's transmitter channel on your TV set. It will be received through the already made antenna lead connection. The image quality is slightly worse than with the Euro connection and the sound will only be transmitted in mono.

Tuning to the transmitter channel

The transmitter channel of the video recorder is preset to channel 36. For easy location of this channel, the video recorder features a test signal.

- Switch on the video recorder with the on/off button ⏻ (2).
- Set the switch (82) on the rear to TEST SIGNAL.
- Select channel 36 at the TV set. You have to see a blue image with two white vertical bars.
- Store this station at the TV set to the programme number prepared for the video recorder.
- Switch off the test signal by setting switch (82) to NORMAL.

Adjusting the transmitter channel

If channel 36 is already occupied, or if the image is distorted, you can readjust the video recorder's transmitter channel.

Just select an undistorted channel between 32 and 40 at your TV set and store it. Use a screw driver to turn the control CH ADJ (79) very slowly, until you are satisfied with the image quality.

English

Remote control

The remote control transmits its signals by infrared light to the video recorder resp. TV set. Whenever you use it, point it towards the receiving device.

The most important functions can be controlled through buttons on the top of the remote control. Seldom used functions can be controlled with the second button board which can be reached by opening the cover.

Insert batteries

Before the first usage, you have to insert the two enclosed batteries into the remote control:

- Turn the remote control upside down.
- Press the tabs of the battery compartment's cover into the cover's direction. Open it by lifting it to the top.
- When inserting the batteries make sure to obey the correct polarity of the batteries, as it is printed in the batteries compartment.
- Insert the battery compartment's cover with the fixed tabs and close it carefully.

The batteries will last about one year. This depends very much on the usage frequency. At least after a year, you should check the batteries for leakage and exchange empty ones.

Only use batteries IEC R6U or LR6 (alkali manganese). Save the environment and put empty batteries to the special waste.

Direct remote control

The infrared receiver is placed at the left side of the video recorder's front. It is only activated if the switch REMOTE (46) is set to position VTR.

Control through the TV set

To allow the control of the video recorder, even if it is standing behind a closed door, it can also make usage of the infrared receiver of your Loewe TV set.

Only requirement is that you have connected your Loewe TV set with a Euro lead. The switch REMOTE (46) must then be set at position TV.

Control of two TV sets

You can even receive and control your new video recorder through a second TV set which might be standing in a different room.

You will need a second Loewe TV set with Euro socket and the Loewe Digital Link, available as accessory, see page 90.

Selecting the remote control's code

If other devices are affected by the video recorder's remote control, you should change its transmission code. Your new video recorder offers «VTR 1», «VTR 2» and «VTR 3»:

- Press VTR 1/2/3 (34) several times, until the desired code appears in the top left of the remote control's display.
- Set switch VTR 1/2/3 (44) on the video recorder to the same code position you have selected for the remote control.

Control of the TV set

The most Loewe TV sets can be controlled with the TV buttons (1). The functions are off, AV/on, volume +/– and programme number +/–.

Even some TV sets of other manufacturers can be controlled. You have to make the following selection:

- Switch on your TV set and point the remote control into the direction of your TV set then making the following controls.
- Press PRESET (32) for more than 2 seconds and then press it twice shortly. «TV1» appears in the display.
- Press the button OFF (16) several times and switch e.g. to «TV 6» for your Loewe TV set.
  There are seven positions:
  TV 1 to 4: Panasonic
  TV 5: Grundig, Blaupunkt
  TV 6: Loewe, Philips
  TV 7: Sony
  As soon as your TV set reacts to one of the positions, it will switch off.
- Switch it on again and check whether the volume can be controlled with ◿ +/– (1), if not, try another position.

Note: the remote control will not work with certain TV models.

Setting date and time

In the remote control

First set date and time in the remote control. Then your inputs will be transmitted to the video recorder:

- If «0:00» is blinking in the remote control display (first setting) open the cover of the second button board on the remote control and enter the time.
- If a time had been set already and «0:00» is not blinking, keep the button CLOCK (32) depressed for more than two seconds.
- enter the year with button Y+/– (13), e.g. «99» for 1999,
- the month with button M+/– (14), e.g. «9» for September,
- the day with D+/– (15), e.g. «8» for the eighth,
- the time with T+/– (16), e.g. «9:05» for five minutes past nine o'clock in the morning. If you keep this button depressed, the time changes in 30 minutes steps.
- Switch on the video recorder with button ○ (2). The control light on the front cover changes from STAND-BY to POWER.
- To transmit the data, point the remote control to the switched on video recorder and press TRANS (20).
  The video recorder's display will show the time and both clocks will start.
  The successfull transmission is answered by the video recorder with a 4 times short and one long sound. If the transmission fails, because for example the video recorder was not switched on, you will hear a signal that sounds 7 times short.

Time change

Enter the time into the remote control as described above. Then transmit the new time into the video recorder.

In the video recorder

If you are very interested in technical details or if you just think that the clock setting via remote control was too easy, we will now describe how date and clock could be set on the video recorder directly:

- Keep the button CLOCK SET (49) depressed for more than two seconds.
- Enter the year using P+/– (12) on the video recorder, e.g. «99» for 1999.
- Use NEXT (57) now and after all the next settings to switch to the next input.
- Use P+/– (12) again, so enter month, day, hours and minutes.
- Press CLOCK SET (49) to start the clock.

Correction of the time

If the clock of the video recorder differs less than two minutes, it can be set to the exact time very easily, e.g. at 8 o'clock PM.

- Keep the button CLOCK SET (49) between 19:58 and 20:01 depressed for at least two seconds.
- As soon as you hear the time signal (e.g. in the radio) press CLOCK SET again.

Time correction

There is a simplified possibility to change the clock of the video recorder from or to daylight savings time.

- Keep the button CLOCK SET (49) depressed for at least two seconds.
- Press SHIFT (58) and the time will be switched.
  once: one hour forward
  twice: one hour backward
- End it with CLOCK SET (49).

Power interruption

If the power supply of the video recorder was interrupted for more than one hour, the time display can be extinguished. Then you have to set date and time anew.

English

Playback

If you have a prerecorded cassette, you can now play it back. Otherwise you have to skip the following for the moment.

- Switch the TV set to the AV programme number.
- Open the front cover of the video recorder.
- Insert your VHS cassette into the cassette compartment, labelled TOP SPEED SYSTEM. The recorder switches on.
- If the cassette was already inserted, switch on with button VTR ⏻ (2).
- Cassettes without recording protection tab switch to playback automatically.
- You start the playback manually with button ▷ (5). «▷» will be displayed.
- Further features like winding, images search, pause/still image can be found below.
- End the playback with the button □ (8).
- The cassette can be removed at any time by pressing CASS (35).

Note: An inserted cassette will be indicated in the display and by the indication CASS on the front cover, even if the recorder is switched off.
- If the front cover is closed, POWER lights up while the recorder is switched on.
- S-VHS and VHS recordings will be detected and played back accordingly. This is also true for Longplay recordings. «LP» will then light red in the display.
- At the end of the tape the recorder stops automatically and rewinds the tape.

Tracking

Cassettes recorded with another video recorder might have slightly different positions of magnetic tracks on the tape. When playing back such recordings distortion stripes result. They will be removed automatically by an automated tracking control.

It might be necessary to help manually:

- Change the tracking during playback by pressing one of the buttons TRACKING –/+ (28) several times, until the distortion stripes are gone.
- Switch back to automatic tracking by changing the cassette or by pressing the both buttons TRACKING –/+ (28) simultaneously.
- During recording the tracking control is not active.

Control the image sharpness

Use the control SOFT-HARD (38) to control the image sharpness during playback. It is only active when AI (47) stands in position OFF.

- Direction SOFT results in softer images.
- Direction HARD results in harder, more visible contours
- The normal setting is the center position.

Image search

To locate a certain position, the images can be played back forward or backward with high speed:

- During playback press the button fast forward ▷▷ (7) or rewind ◁◁ (6) shortly. The image search starts.
- If you keep the buttons depressed, playback resumes as soon as you release it.
- Otherwise the image search will stop after pressing the playback button ▷ (5) or the stop button □ (8).

Winding

Winding the tape forward or backward allows you to reach your recordings fast:

- During stop mode press the button fast forward ▷▷ (7) or rewind ◁◁ (6) shortly. The winding without image playback starts.
- If you press the same button again during winding, you switch to image search as long as you keep it depressed.
- End the winding by pressing the stop button □ (8).

Pause/still image

You can watch every single image of your recordings:

- Press ▯▯ (9) during playback. The recorder switches to pause and displays a still image.
- If you use button ▯▯ (9) on the video recorder, you can use the jog disc (55) to locate certain single images. Turn it clockwise to select the next images, backward for the previous ones.
- Back to playback with ▷ (5).

Notes: The shuttle ring (54) must be set to its center position.
- Vertical trembling of the image is reduced to a minimum with TRACKING –/+ (28).
- Distortion stripes can only be removed during slow motion.

Slow motion

Details of movements can perfectly be studied with the slow motion:

- During playback press the button ▯▷ (10) on the remote control. You see your playback in slow motion forward.
- Distortion stripes are removed with the buttons TRACKING –/+ (28).
- Back to playback with ▷ (5).

Variable slow motion

This enhances the possibilities of the slow motion:

- Press ▯▯ (9) on the video recorder.
- Vertical trembling of the still image is reduced to a minimum with TRACKING –/+ (28).
- Turn the shuttle ring (54) slightly clockwise for slow motion forward or anticlockwise for slow motion backward.
- The further you turn it, the faster the slow motion will become. You can even reach normal playback and the variable image search speed.
- Back to playback with ▷ (5).

Notes: Still image and slow motion playback will be ended automatically after five minutes, image search after 10 minutes.
- During Longplay playback still image and slow motion are very likely distorted.
- During image search horizontal bars can be seen.

Playback standard

Your new video recorder can playback the following standards:

- **PAL**, the usual European colour standard.
- **MESECAM** for Switzerland and Eastern Europe.
- **NTSC**, for recordings from the USA and Japan. The playback is converted to PAL with 60 images per second. Most TV sets can display them.

Note: Recordings made with French SECAM will only be played back in black and white.

TBC and AI

The image quality of weak recordings can be effectively improved:

- Set the switch AI (47) to ON. It is a good idea to leave it in this position. The red AI indication on the front of the recorder lights up. This activates an automatic image noise reduction at weak recordings. The control SOFT-HARD (38) is not active any more.
- The TBC, the Time Base Corrector can reduce the vertical fluttering during playback of weak PAL recordings. If needed, switch TBC (39) to ON.
  Normal setting is OFF.

Audio playback

You can select between different possibilities of sound playback:

- Hifi stereo recordings can be recognized by the indications «L» and «R» in the display. This setting will be selected automatically whenever possible.
- If you hear two languages simultaneously, select the desired sound «L» or «R» with AUDIO OUT (29).
- The mono standard track can be heard when the indications «L» and «R» do not light.
- Many films are recorded with Dolby Surround Sound. If you own a surround decoder, you can play back such recordings with full surround sound.
- When playing back audio dubbed recordings, you should set AUDIO MIX (45) to ON. You will hear the original hifi sound and the audio dubbed standard track simultaneously.
  Important: Normal setting is OFF.

English

Playback

Index search system

The VHS Index Search System (VISS) allows you to locate the begin and the marked positions of your recordings very easily. Video recorder equipped with VISS record a marker at each recording start.

Here is an example how to search the start of the third recording from the begin of the tape:

- Insert a cassette, recorded with a video recorder which records index markers.
- Use ◁◁ (6) to rewind to the start of the tape.
- Press VISS ▷▷I (4) three times. You will see «S» and shortly «3» in the display of the video recorder.
- The tape will be wound forward to the third marker, where playback will start.

Note: If you do not start at the begin of a tape, you can also use I◁◁ (4) to rewind to the next markers.

Wide screen monitor

If your TV set features the wide screen format 16:9, the video recorder can switch the screen display when connected with a Euro lead.

- Switch WIDE 16:9 (40) to:

AUTO: the correct format is selected automatically.
This is the standard position.
ON: it is always switched to 16:9.
OFF: it is always switched to 4:3.

Note: with some 16:9 TV sets and all the normal 4:3 TV sets this selection is not active. It has to be made with the TV's remote control.

Tape counter

Your new video recorder is equipped with a real time counter which displays hours, minutes and seconds.

The accuracy to the second is reached by counting the number of the recorded images (50 per second). That's the reason why the tape counter stops if the tape has never been recorded. If there is a non recorded part on the tape between two recordings, it will stop counting shortly.

To display it, press the button COUNT (3) once while the time is displayed. This activates the tape counter on the video recorder. You will see the indication «COUNT» in the display.

To allow the tape counter to indicate the time passed since the start of the tape, you have to reset it at the begin of the tape. Press button 0000 (48) to set is to «0:00.oo». When changing cassettes, the tape counter resets automatically.

If you enter a cassette which is not fully rewound, or if you do not reset the counter at the start of the tape, it might happen that the time is shown with plus or minus. You are then behind or before the position marked with «0:00.oo».

Note: Store your cassettes always fully rewound. This prevents the tape from damage and allows the tape counter to indicate the correct time.

Remaining tape time

The time remaining till the end of the tape can be displayed:

- Press TAPE (31) several times. Select the indication in the video recorder's display according to your cassette:
  «E 195»: for cassettes with 30, 60, 90, 120, 180 and 195 minutes playing time.
  «E 240»: for 240 minutes cassettes.
  «E 260»: for 260 and 300 minutes cassettes.
  After a few seconds the display is extinguished.
- Press COUNT (3) twice if the time is displayed, once if the tape counter is displayed.
- If you have just inserted a cassette, it takes a short time before the remaining tape time «REMAIN» is displayed in hours and minutes.
- Back to clock or tape counter display with button COUNT (3).

Headphone connection

You can connect a headphone and control its volume:

- Close the front cover and open the small cover on the left below.
- Insert a stereo headphone with 3.5 mm plug and an impedance of at least 8 Ohms into socket 🎧 (76).
- The desired headphone volume is set with control ◿ 🎧 (37).

Station preset

Your video recorder has a built in reception unit for terrestrial stations and cable stations. It is the best if you ask your dealer to make the necessary station preset which is needed to be made only once.

Preset mode

To make any of the setting described on this page, you first have to reach the preset mode:

- Switch your TV set to the AV programme number and switch on the video recorder with ⏻ (2).
- Select a programme number with P +/– (12), which is indicated with 1 to 99 in the display.
- Keep the button TUNER PRESET (50) depressed for more than two seconds. The preset mode is reached, the programme number is flashing.

Station search

If you do not know the transmitter channels of your stations, use the station search:

- Switch into the preset mode as described above.
- Select the programme number you want to set with P +/– (12).
- Press the button NEXT (57).
- Only for decoder operation, e.g. for PREMIERE select «2» with SHIFT (58).
- Start the station search upward with P+ (12) or downward with P– (12) on the video recorder, «Po» starts flashing.
- Whenever the flashing stops start again, until you have reached the station you want on the selected programme number.
- Press NEXT (57) to store it.
- For further stations start again, by selecting the programme number.
- Pressing TUNER PRESET (50) twice ends the station preset.

Channel input

This is the easiest station preset if you know the channels of the stations:

- Select the preset mode as described above.
- Select the programme number you want to set with P +/– (12).
- If «- -» appears, press SHIFT (58).
- Press the button NEXT (57) .
- Only for decoder operation, e.g. for PREMIERE select «2» with SHIFT (58).
- Enter the channel of the first station with the number buttons (25) using two digits.
- When the station appears, press the button NEXT (57) to store it.
- For further stations start again, by selecting the next programme number.
- Pressing TUNER PRESET (50) twice ends the station preset.

Fine tuning

There are only very few cases where you might improve the image quality by manually fine tuning:

- Select the preset mode as described above.
- Press the button TUNER PRESET (50) once again or press it only once at the end of station preset.
- Select the programme number you want to fine tune with P +/– (12),
- Press NEXT (57) to store it.
- By pressing P+/– (12) on the video recorder several times, you set the image sharper or less sharp.
- Use SHIFT (58) to switch back to the automatic fine tuning «AFC».
- Press the button NEXT (57).
- For further stations start again, by selecting the next programme number.
- End it with TUNER PRESET (50).

Lock programme numbers

Not occupied programme numbers should be locked. With P +/– (12) you will then reach only the occupied programme numbers:

- Select the preset mode as described above.
- Select the programme number you want to lock with P +/– (12),
- Press SHIFT (58). The programme number will be replaced by bars.
- Select the next programme number and lock it with SHIFT (58) again.
- To unlock stations proceed the same way, just press SHIFT (58) again.
- Pressing TUNER PRESET (50) twice ends the setting.

Channel assignment

02-12 / 21-69	: E2-E12 / 21-69
74-76 / 80-82	: S1-S03 / M1-M3
83-89 / 90-99	: M4-M10 / U1-U10
121-141	: S21-S41

English

Recording

It is very easy to record a cassette yourself. Due to the S-VHS system, your recordings are even better than the ones from many rental tapes.

Cassette selection

Your new video recorder can be operated with all cassettes of the VHS/S-VHS system. To make the right selection, please bear the following in mind:

- The best image quality is reached with the more expensive S-VHS tapes.
- By recording with S-VHS longplay LP, you halven the tape costs and still maintain an excellent image quality.
- When using normal VHS cassettes, the images are not much better than with a simpler and cheaper VHS recorder.
- To maintain the high image quality, do not switch between S-VHS and VHS cassettes too often.
- If you want to playback your recording on a S-VHS cassette with a normal VHS recorder, set S-VHS (42) to OFF before recording. The indication S-VHS is extinguished.
- The built in tape adaptation should always be activated with AI (47). It allows perfect usage of the tape. This means you can use tapes of all manufacturers.
- When using cassettes with different running times you always have to switch to the correct type before using the remaining tape time.

To summarize all these facts, we recommend using the cassette type SE 240. When recording films, you should use the Longplay with 8 hours recording capacity. Especially high quality recordings and whenever you emphasize good still image/ slow motion playback, e.g. for copying, Standardplay SP should definitely be favoured.

Immediate recording

Switch your devices on and insert a cassette ready for recording. Just proceed as you did for playback.

- Use the number buttons (25) or P+/– (12) to select the desired programme number for the recording, or select an AV input. If you enter only one digit, the selection will be made after two seconds.
- Select the desired tape speed with SP/LP (57). It will be indicated in the display and remains active.
- The two controls HIFI REC LEVEL (36) are set to their center notch position or so that the red range of the audio level display on the right of the display does not light up.
- Start the recording by pressing the two REC (11) buttons on the remote control or button REC (11) on the video recorder. «REC» lights up in the display.
- Interrupt and restart the recording with the pause button ⏸ (9).
- End the recording with □ (8), otherwise it will continue to the end of the tape.

Note: If you have inserted a cassette which is protected against erasing, the cassette symbol starts flashing as soon as you switch to recording.
- Close the square opening on the rear of the cassette with adhesive tape if you want to remove the erasing protection.
- The recording is always made in stereo resp. bilingual. Use AUDIO OUT (29) to select the sound you want to hear during recording.
- Change of the stations is possible during record pause mode.
- During recording you could watch another TV programme or switch off your TV.

Recording from the TV set

You can also record from your TV set, e.g. satellite programmes, which can't be received by your video recorder:

- Select the desired programme on the TV set.
- Press P– (12) several times, until «A1» appears in the display.
- Use REC (11) to switch to recording. You record whatever you see on the screen.
- Even timer recordings with VPS and ShowView are possible, see page 78.
- If your TV set is not equipped with a special circuit, it must be switched on before the start and during the recording.

Recording from a satellite receiver

When recording satellite programmes, you need a separate satellite receiver, if your TV set is not equipped with one:

- Connect the receiver with a Euro lead to AV 2 (81).
- Press button P– (12) several times, until «A2» appears in the display.
- Select the desired programme on the receiver.
- Use REC (11) to switch to record.
- If the video recorder is switched off, you can see the satellite stations on the AV programme.

If the receiver is connected to the antenna socket RF IN (78), you will receive it like another TV station. Accordingly you have to make the station preset on the video recorder and on the TV set. The station channel of the receiver must be adjusted that no distortions with other stations take place.

Recording with decoder

You can connect a decoder, e.g. for PREMIERE, which allows you to watch and record the decoded station.

- The connection is made to AV 2 (81) or to the satellite receiver.
- The decoder also decodes the station received directly by the TV set.
- To activate the decoding for the PREMIERE programme number, you will have to select the decoder mode «2» during station preset, see page 75.
- Select the PREMIERE programme number. After a short time the decoding will start.

If you receive PREMIERE directly with the TV set, you can watch and record decoded broadcasts:

- Press the button TV/VTR. «VTR» appears in the video's display.
- Select input «A2» with P+/– (12).
- Use REC (11) to switch to record.

The sound recording

Your new video recorder is equipped with hifi stereo sound. This will be recorded onto two FM sound tracks. Additionally the sound will be recorded to the standard mono audio track, which can be played back by all video recorders.

Audio level setting

The recording volume of the hifi sound tracks is controlled and displayed for the left (L) and right (R) channel separately:

- Set the controls HIFI REC LEVEL (36) that when «L» and «R» are displayed, the loudest parts just do not reach the red range (0 db).
- The sound of the standard track is always controlled automatically. It will be played back and displayed when «L» and «R» are switched off with AUDIO OUT (29).

NICAM, stereo and bilingual reception

The recorder is equipped for the reception of NICAM digital Sound (e. g. in Belgium and Spain) and of stereo sound A2 (e. g. in Germany).

The indicators inform you of the sound reception:

«NICAM» : digital sound
«STEREO» : stereo sound (bilingual)
«M1+M2» : bilingual (stereo)
«M1» : NICAM mono

Switch MONO (51) must always be set to position OFF, to allow the recording of all sound tracks.

NICAM is broadcasted in addition to the standard sound. The standard sound will be recorded to the standard sound track. If you want to record it also to the FM-sound tracks, switch MONO (51) to ON.

Sound monitoring

During a recording as well as during stop or playback, you can select which sound you want to hear from your TV set. This does not affect the recording.

Press AUDIO OUT (29) several times to switch the indication in the display below the record level:

«L» and «R»: stereo sound
«L» : left audio channel mono
«R»: right audio channel mono
no display: standard track mono

Index recording

Index markers allow simple location of tape positions. Whenever a index marker is recorded «WRITE» is displayed. Index markers will be recorded in the following cases:

- When starting a recording with REC (11)
- When pressing REC (11) during running recordings.
- Whenever a timer recording starts.
- During a running playback, if you press button VISS MARK (33).

Note: Two index markers must have a minimum distance of three minutes during SP and five minutes during LP.

Index erase

You can erase single index markers without affecting image or sound:

- Search the index mark you want to erase with VISS ⏮/⏭ (4).
- Press the pause button ⏸ (9) immediately when the playback starts.
- Press the button VISS ERASE (30).

If the marker is located less than five seconds before the present tape position, it will be erased.

On screen display

If you press DIS (27), the informations listed below are displayed on the screen (not during NTSC playback). This is especially useful if the video recorders display can't be seen from your position.

- Time and programme number
- Tape counter, operation mode, SP/LP and cassette
- Index recording or erase

English

Timer recording

The timer will control your recordings even if you are not at home. Up to eight recordings within one month can be entered.

To make the operation of the timer as easy as possible, your new video recorder is equipped with ShowView*. All you have to do is enter the ShowView number, which is listed in the TV magazines for each broadcast.

The input is made into the remote control. It can then be controlled in the remote control's display. Finally it is transmitted to the video recorder by the pressing of a button.

To ensure the highest accuracy and reliability of your timer recordings, the video can be retrofitted with the Video Programme System VPS or PDC.

Sleep timer

This is the easiest way to make sure that the video recorder switches off automatically. Press SLEEP (58) several times, until the desired running time is displayed in the video's display as «OFF» time. The time can be selected in 30 minutes steps up to 9 hours.

* ShowView is a trademark applied for by Gemstar Development Corp. ShowView System is manufactured under license from Gemstar Development Corporation.

Important for timer recording

To ensure perfect timer recordings please bear the following in mind:

- Time and date must be entered in the remote control and transmitted to the video recorder.
- A cassette ready for recording and with enough remaining running time must be inserted.
- During timer input you can select the recording speed with SP/LP (22), otherwise it will be made at the speed shown in the video recorder's display.
- After entering timer inputs into the video recorder a clock symbol lights up. From then on the control is locked.
- Until the timer recording is made, you have to switch your video recorder on and off with button TIMER (17).
- Timer inputs are checked with CHECK (18) on the screen. Press the button several times to control them on the video's display.
- A running timer recording is ended with button TIMER (17).

If your video has been equipped with VPS or PDC, please note the following:

- When recording from stations with VPS/PDC, you have to enter the exact VPS time, otherwise no recording is made at all. When receiving such stations «VPS» lights red in the display.
- During timer input you can use button VPS (23) to switch off the VPS/PDC function. This is important when recording several broadcasts with one timer programme.
- If the broadcast programmed with VPS/PDC is cancelled or interrupted, it will be erased from the memory on the second next day at four o'clock in the morning.

ShowView

Many TV magazines list the ShowView number for each single broadcast. It contains the encoded station, start resp. VPS and end time of the broadcast as well as the date. This makes timer input as easy as dialling a phone number.

The ShowView system names each station with a guide number, which can be found in the TV-magazine as well. It has to be assigned to the programme number of the corresponding station:

- Open the cover of the remote control.
- Keep PRESET (32) depressed for at least two seconds then press it once again. «SHOWVIEW» appears with the display for the station assignment.
- Enter the guide number with OFF +/– (16), e.g. «005» for SAT 1.
- Use PR+/– (13) to select the programme number you use on the video recorder for this programme, e.g. «4» if you use programme number 4 for SAT 1.
- Select the other guide numbers and the corresponding programme numbers.
- You have to assign «- -» to all guide numbers of stations you do not receive.
- All programmes you want to record from your TV set, e.g. satellite stations, are assigned to «A1», this is input AV1 (80).
- All programmes received from a satellite receiver connected to AV2 (81) are assigned to «A2». If the receiver is connected to RF IN (78) enter the receiver's programme number.
- After all assignments have been made, close the cover of the remote control.

Guide number

Each language region uses different guide numbers. This was the reason why you had to find the guide number in your TV-magazine. Nevertheless, if you couldn't find it there, it can also be found out in the following way:

- Select the mode for programme assignment as described above.
- Get the ShowView number of a future broadcast, which is broadcasted on the station which guide number you want to know from your TV-magazine.
- Enter these numbers with the number buttons (25).
- Press the button OK (26).
- The guide number appears in the display.

Timer input with ShowView

After these preparations which had to be made only once, the timer input is really easy:

- Insert a cassette ready for recording.
- Open the cover of the remote control. Time and date must be set.
- Press SHOWVIEW (21).
- Enter the ShowView number with the number buttons (25).
- Then press the button OK (26).
- Check whether all data of your desired recording are displayed, otherwise press SHOWVIEW (21) and enter the ShowView number again.
- Point the remote control to the video recorder and press TRANS (20).

The video recorder receives the data of your broadcast you want to record and shows them in the display and on the screen.

Normal timer input

Without ShowView number all you have to enter are programme number, date, begin and end of the broadcast:

- Open the cover of the remote control.
- Use PR+/– (13) to select the programme number or one of the AV inputs.
- Use DATE+ (14) to select the date if you do not want to record today.
- Use ON+/– (15) to select the start time,
- use OFF+/– (16) for the end time.
- Point the remote control to the video recorder and press TRANS (20).

The video recorder receives the data of your broadcast you want to record and shows them in the display and on the screen.

Daily/weekly

When entering the date, the weekday of the recording is displayed. By pressing DATE- (14) several times, you can select:

- weekly, always the same day of the week
- daily, from Monday to Friday,
- daily from Monday to Saturday,
- daily from Sunday to Saturday.

Cancel timer inputs

The timer inputs in the remote control's display are cancelled when closing the cover.

The timer inputs which have already been transmitted to the video recorder must be cancelled as well:

- Press CHECK (18) several times, until the timer input you want to cancel is shown in the video's display and on the screen.
- Press CANCEL (19) to delete it.

Timer input on the video recorder

If necessary, you can even enter timer recordings on the video recorder itself.

- Switch the TV set to the AV programme number and switch the video recorder on.
- Press TIMER PROG (56) several times, until the next free timer memory is reached.
- Use P+/– (12) to select the programme number or one of the AV inputs.
- Use NEXT (57) now and after each of the following inputs, to switch to the next input.
- Use P+/– (12) again, to enter date, start time hour and minute, stop time hour and minute and finally LP or SP.
- The timer is activated with TIMER (17).

Note: Daily and weekly can be selected with P– (12) when entering the date. The according display can only be seen on the screen.

Cancel timer inputs on the video recorder

You can also cancel timer inputs on the video recorder:

- Switch your TV set to the AV programme number.
- Switch on your video recorder with button TIMER (17).
- Press TIMER PROG (56) several times, until the timer input you want to cancel is displayed.
- Keep P– and P+ (12) on the video recorder depressed simultaneously for at least three seconds.

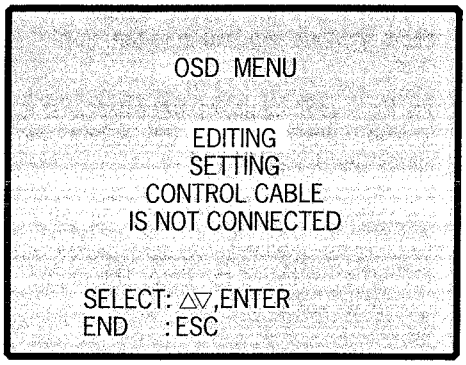
English

On screen dialog control

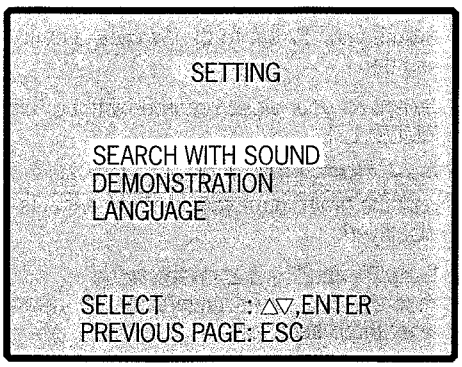
On screen language

The electronic cut is controlled through an on screen dialog. You can select between different languages of the menu display:

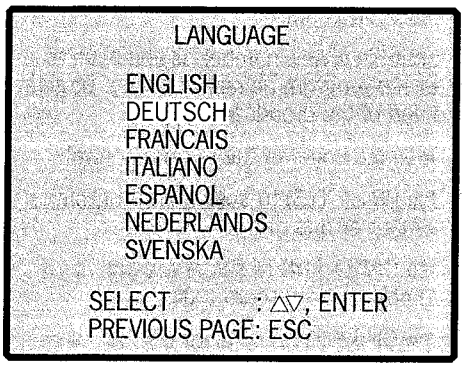
- Switch the TV set to the AV programme number and switch the video recorder on.
- Make sure that EDIT (43) is in position PLAY or REC.
- Use MENU (60) to call the OSD menu (On Screen Display):



- Select «SETTING» with ⧫ (61).
- Use ENTER (62) to call it.



- Select «LANGUAGE» with ⧫ (61).
- Use ENTER (62) to call it:

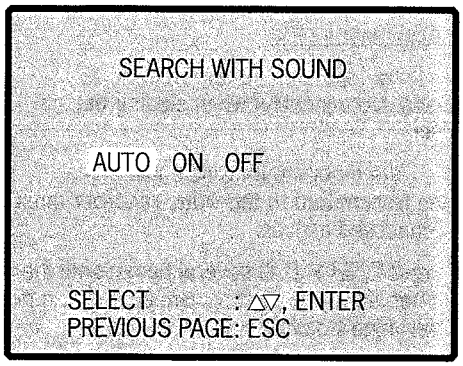


- Use button ⧫ (61) to select the desired language.
- Use button ENTER (62) to confirm the language change.
- Use ESC (64) to reach the previous menu.
- Use MENU (60) to switch off the OSD.

Image search sound

In the OSD you can select whether you want to hear the sound during image search:

- Call the setting menu as described above.
- Mark «SEARCH WITH SOUND» and confirm it with ENTER (62):



- Use ⧫ (61) to select the desired setting:
  AUTO: sound only during editing search
  ON: sound during each search
  OFF: no sound during search
- Use button ENTER (62) to store the selected setting.
- Use ESC (64) to reach the previous menu.
- Use MENU (60) to switch off the OSD.

OSD demonstration

You can cycle the different on screen menus for demonstration purposes:

- Call the setting menu as described above.
- Mark «DEMONSTRATION» with ⧫ (61).
- Use ENTER (62) to start the demonstration cycle.

Every five seconds a different page of the on screen menus for setting and cutting functions will be displayed.

- Use ESC (64) to reach the previous menu.
- Use MENU (60) to switch off the OSD.

Copying

With your new video recorder you can copy from each camcorder or other video recorder.

Connection

The best copies will be reached when using your new video for recording, as recorder. The other one will be used for playback, as player:

- Use a Euro lead to connect the AV output of the player to the input AV2 (81) of the recorder.
- Use P–/+ (12) to switch to «A2».

- If your player features the necessary output sockets and is only connected temporarily, it might be more convenient to use the front sockets of the recorder. In this case connect the image lead to VIDEO IN (71) and the sound lead to AUDIO IN L/R (72).
- Use P–/+ (12) to switch to «A3».
- INPUT SELECT (41) must be set to LINE.

- If the player features S-VHS or Hi-8 connect the image lead to the socket S-VIDEO IN (70). This ensures perfect S-VHS image quality.
- Use P–/+ (12) to switch to «A3».
- In this case INPUT SELECT (41) must be set to S-VIDEO.

- Your TV set remains connected to the Euro socket AV1 (80).

Copying

After all connection problems are solved, the copying is very simple:

- Switch on all devices.
- Insert the recorded cassette into the player, the cassette ready for recording into the recorder.
- Start the playback on the player.
- Immediately switch the recorder with REC • (11) to record.
- On your TV set you can monitor the copying.
- You can use the pause button ⏸ (9) to stop the recording and start it again if you want to skip a scene from copying.
- End the copying with the stop button □ (8) and then switch off the player.

Synchronized copy

With some video recorders and camcorders the recorder can be controlled through the connector SYNCHRO (74):

- Switch the recorder with REC • (11) and ⏸ (9) to record pause.
- Switch the player to still image.
- Start the playback with the pause button ⏸ (9) the player will be started synchronously through the synchro lead.

Assembling

During coping you can reassemble the scenes in whatever order you like. To ensure that the transitions do not show distortions, your new video recorder is equipped with assemble cut:

- Switch on all devices and insert the cassettes.
- Press pause ⏸ (9) on the recorder.
- Use the shuttle ring (54) to search the end of the scene where you want the scene to be copied to start.
- Press REC • (11) to switch to record pause.
- Start the playback on the player.
- Press pause ⏸ (9) on the recorder as soon as the desired scene starts. The copying is running.
- Stop at the end of the scene with the pause button ⏸ (9).
- Copy further scenes in the same way.
- End the copying with the stop button □ (8) and then switch off the player.

Copyright laws

Recording is permissible only in the event that third party copyrights and other rights are not violated.

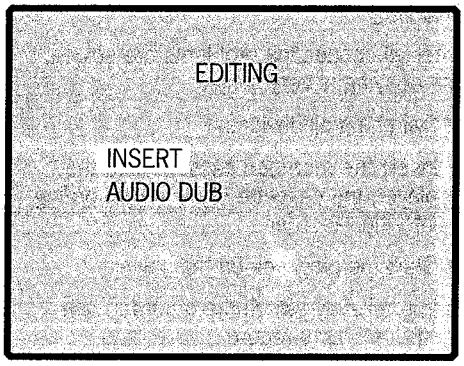
English

Inserting

You can use **inserting** cut to replace scenes of a recorded cassette with the image and hifi sound of a new recording of the same length. The original sound on the standard track remains unchanged.

The **AV insert** only differs in the standard sound also being recorded anew.

- Switch the TV set to the AV programme number and switch both video recorders on.
- Select the corresponding AV programme number at the recorder.
- Now search the start of the scene you want to insert on the player and shortly before reaching it switch to still image.
- Press ⏸ (9) on the recorder.
- Use the shuttle ring (54) to search the **end** position, where the scene which will be inserted shall end. At that position press button 0000 (48).
- Now search the **start** position of the new recording and switch to still image.
- Make sure that EDIT (43) is in position REC.
- Use MENU (60) to call the OSD menu.
- Confirm «EDITING» with ENTER (62). The editing menu appears:



- To activate the **insert** mode, confirm «INSERT» with ENTER (62).
- To activate the **AV insert** cut first confirm «INSERT» with ENTER (62). Then select «AUDIO DUB» with ◈ (61) and confirm it with ENTER (62).
- Start the playback on the player.
- When reaching the desired position start the insert recording with the pause button ⏸ (9).
- At the preset position, as soon as the counter shows «0:00.oo» the recording will be stopped automatically.
- Switch off the OSD menu with MENU (60).

Audio dubbing

During the audio dubbing image and hifi sound remain unchanged, only the sound of the standard track will be recorded anew.

Connect a sound source, e.g. a CD player to AUDIO IN L/R (72).

- Proceed as you did for inserting.
- There is no need to mark the end of the recording, because you can now watch your playback during the audio recording.
- Use ⏸ (9) to switch to a still image at the start position.
- Once the editing menu is reached, use ◈ (61) to select «AUDIO DUB» then press ENTER (62).
- You will hear the sound coming from the player.
- Search and start your new sound.
- Start the begin of the audio dubbing with the pause button ⏸ (9). Display «A.DUB».
- During the sound recording you can use AUDIO OUT (29) to switch the sound you are hearing between original and new recorded.
- End it with the stop button □ (8).

Playback of your audio dubbed recording is made with switch AUDIO MIX (45) in position ON, or the desired sound is selected with AUDIO OUT (29).

Manual editing

Connections

When using an identical second video recorder or another one with the same control system make another connection:

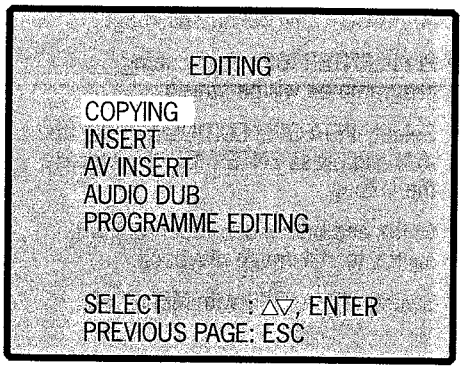
- Connect the control lead to the EDIT (73) sockets of both video recorders.
- Use EDIT (43) to switch the recorder to REC.
- Use EDIT (43) to switch the player to PLAY.
- All further connections are made according to chapter Connection on page 81.

The control lead allows the player being controlled through the recorder. If not emphasized, only use the buttons on the recorder during the copying described below.

Copying

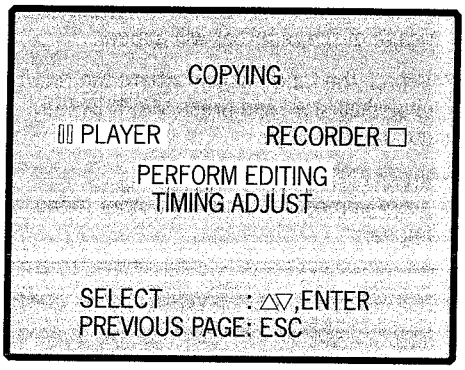
Already during normal copying the advantages of the control lead become clear:

- Switch the TV set to the AV programme number and switch on the video recorder.
- Select the corresponding AV input on the recorder.
- Use MENU (60) to call the OSD menu.
- Select «EDITING» and confirm it with ENTER (62). The cutting menu appears:



- Confirm «COPYING» with ENTER (62).
- Press the button PLAYER (52).
- Press ▯▯ (9) on the recorder.

The playback of the player appears on the screen. The menu shows the operation mode of the player and recorder. The marked video recorder will be controlled with the buttons of the recorder.



- Search the start of your playback, using the shuttle ring (54).
- Press the button RECORDER (53). This switches to recorder control.
- Press the pause button ▯▯ (9). The playback image of the recorder appears.
- Search the tape position where the new recording shall start.
- Confirm «PERFORM EDITING» with ENTER (62). Copying starts.
- End it with ESC (64).
- Use MENU (60) to switch off the OSD.

Inserting, audio dubbing

All the facts stated in chapter "Copying" on page 81 are valid here as well. But the connection with the control lead does now allow you to control both video recorders through the OSD menu from the recorder.

- Select the cutting menu as described in the last chapter Copying.
- Use ⧫ (61) to select one of the following:
  «INSERT»
  «AV INSERT»
  «AUDIO DUB»
- Confirm your selection with ENTER (62).
- Press the button PLAYER (52).
- Press ▯▯ (9) on the recorder. The playback of the player appears, together with the cutting menu.
- Search the start of your playback, using the shuttle ring (54).
- Press the button RECORDER (53).
- Press ▯▯ (9) on the recorder. The playback image of the recorder appears.
- Use the shuttle ring (54) to search the **end** position, where the scene which will be inserted shall end. At that position press button 0000 (48).
- Now search the **start** position, where the insertion of the scene shall start and switch to still image.
- Select «PERFORM EDITING» and confirm with ENTER (62). The cutting starts.
- At the preset position, as soon as the counter shows «0:00.oo» the recording will be stopped automatically.
- During audio dubbing, when not stopping at the zero position, end with ESC (64).
- Use MENU (60) to switch off the OSD menu.

English

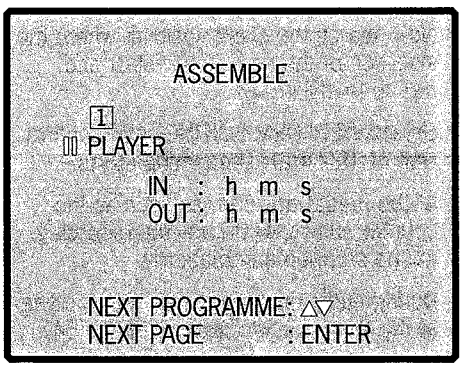
Programme editing

Now the cutting computer will really be applicated. Up to 10 scenes can be marked and then be copied automatically. Requirement is once again the connection of the two video recorders with the control lead, as described during manual cutting.

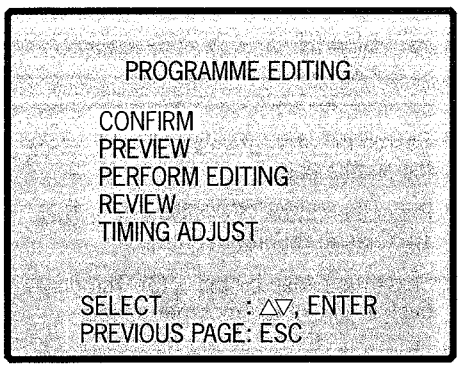
Assembling

This allows the automated connection of different scenes during copying:

- Select the cutting menu as described in the last chapter "Copying".
- Use ⧫ (61) to select the line «PROGRAMME EDITING».
- Confirm your selection with ENTER (62). The programme editing menu appears.
- If you want to erase the old cutting data, confirm «ALL CLEAR» with ENTER (62). Then select «YES» with ⧫ (61) and confirm with ENTER (62).
- Select «ASSEMBLE» with ⧫ (61) and confirm with ENTER (62).
- Press the button PLAYER (52).
- Press ▯▯ (9) on the recorder. The playback of the player appears, together with the assemble cut menu.



- Search the begin of your first scene and press MARK IN (65) during still image.
- Search the end of the scene and press MARK OUT (66) during still image.
- Use ⧫ (61) to select the next cutting programme number and mark begin and end of the further scenes.
- Press the button RECORDER (53).
- Press ▯▯ (9) on the recorder. The playback image of the recorder will appear.
- Search the tape position where the recording shall start and press MARK IN (65) during still image.
- Press ENTER (62). Your cutting programmes are stored. Another menu appears:



- Select «PERFORM EDITING» with button ⧫ (61).
- Press ENTER (62) to start the cutting.

At the end both video recorders will switch to still image playback and you can then enter additional cuts or switch off the OSD menu with MENU (60).

Note: For programmed cuts the start of each scene has to be at least 10 seconds past the begin of the tape.

Inserting, audio dubbing

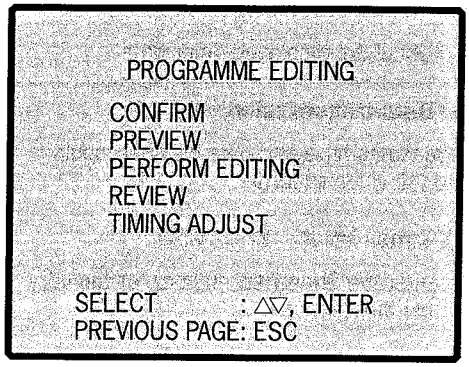
This allows you to insert selected scenes into an already existing recording:

- Select the menu «PROGRAMME EDITING» as described in the chapter "Assembling".
- Use ⧫ (61) to select «INSERT», «AV-INSERT» or «AUDIO DUB».
- Confirm your selection with ENTER (62).
- Press the button PLAYER (52).
- Press ▯▯ (9) on the recorder. The playback of the player appears.
- Search the begin of the first scene and press MARK IN (65) during still image.
- Search the end of the scene and press MARK OUT (66) during still image.
- Depending on the length of your insert you can use ⧫ (61) to select further cut programmes and mark begin and end of the scenes.
- Press the button RECORDER (53).
- Press ▯▯ (9) on the recorder. The playback image of the recorder appears.
- Search the tape position where your recording shall start and press MARK IN (65) during still image.
- Search the tape position where your new recording shall end and press the button MARK OUT (66) during still image.
- Press ENTER (62). Your cutting programmes will be stored.
- Select «PERFORM EDITING» with button ⧫ (61) and press ENTER (62). This starts the cutting.
- At the end both video recorders will switch to still image playback.
- Switch off the OSD with MENU (60).

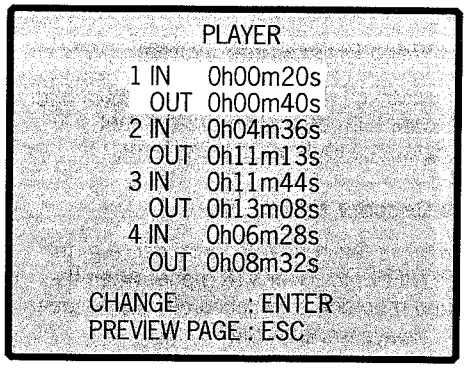
Editing control

It is very easy to control your editing programmes, change them or erase them.

- After marking your cutting scenes for the programme cut this menu appears:



- Select «CONFIRM» with the button ENTER (62). The cutting overview for the player appears for the **check**:



- To check the cutting scenes of the recorder press RECORDER (53).
- Back to the player with PLAYER (52).
- If you want to make changes, select the corresponding programme with ⟠ (61) and press ENTER (62).
- Search a new begin of the scene or a new end and mark it with MARK IN (65) resp. MARK OUT (66).
- Store the data with ENTER (62).
- To **clear** a programme select it with ⟠ (61) and press CLEAR (63).
- Back to the previous menu with ESC (64).

Preview

During the programme editing for insert, AV insert and audio dubbing you can sue the recorder or start a preview of your cutting programme:

- After entering the editing data use ⟠ (61) to select «PREVIEW» in the programme cut menu.
- Press ENTER (62) and the preview starts on the screen. It ends in the programme editing menu.

Review

After ending the editing, you can review the results:

- Select the line «REVIEW» in the programme editing menu.
- Press ENTER (62) and the review starts on the screen. It ends in the programme editing menu.

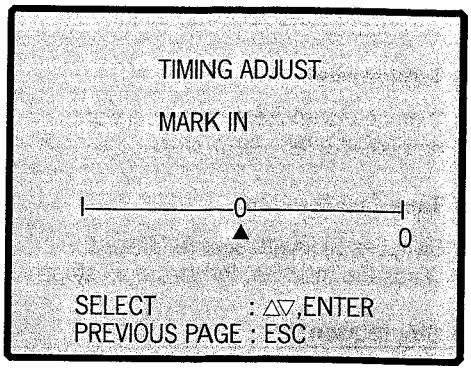
Timing adjustment

The programme operation with control lead might need different reaction times if the recorders are not identical. If the cuts do not start and end exactly as preselected, you can correct this misbehaviour.

Make a recording with a clock with second display. Copy it with a programmed cut at a certain second display. Find out which differences there are between the exact cutting points of the copy and the programmed ones.

In our example a full second is missing. These are 50 single images (half images), which can be determined with the JOG disc (55). The correction is counted in full images, in our example 25, one full second.

- Select «TIMING ADJUST» with ⟠ (61) from the programme cut menu.
- Press ENTER (62) the menu appears:



- Use ⟠ (61) to enter «-25» for the delay of the cutting start «MARK IN» and confirm it with ENTER (62).
- Correct the end of the cutting «MARK OUT» in the same way and confirm it with ENTER (62) as well.
- Use MENU (60) to switch off the OSD.

English

Picture explanation

On page 3 and 154 the remote control and the video recorder are displayed. Here you will find a description of the buttons, switches and connectors:

1 TV control

Switch on and off, to the AV programme number, control the volume and change the programme on the TV set.

2 On/off ⏻

To switch the video recorder on and off.

3 Tape counter COUNT

Switches the display from time to tape counter or remaining tape time.

4 VISS ⏮/⏭

For the index search functions.

5 Playback ▷

Switches the video recorder to playback.

6 Tape rewind ◁◁

- Switches to image search backward.
- Rewinds the tape from stop.

7 Tape fast forward ▷▷

- Switches to image search forward.
- Winds the tape fast forward from stop.

8 Stop button □

Stops all tape functions.

9 Still image/pause ⏸

- Switches to still image playback.
- Switches to pause during record.

10 Slow motion ⏸▷

Switches during playback to slow motion forward with fixed speed.

11 Record REC •

To start the recording press the button on the video recorder or both buttons on the remote control simultaneously.

12 Programme number/input P+/–

To select the recording from:
- programme number 1 to 99
- «A1»: Euro socket AV1 (80)
- «A2»: Euro socket AV2 (81)
- «A3»: front sockets AV3 (70-72)

13 Timer/year input PR/Y

- timer programme number
- year during clock setting

14 Timer/date input DATE/M

- timer date
- month during clock setting

15 Timer/day input ON/D

- timer start time
- day during clock setting

16 Timer/time input OFF/T

- timer stop time
- time during clock setting

17 Timer mode off/on TIMER

After a timer input the video recorder is locked, the red clock symbol lights in the video's display. To switch the video recorder on, you have to use the button TIMER. Switch it off with TIMER as well.

18 Check timer input CHECK

To display your timer data on the screen and in the video's display.

19 Cancel timer input CANCEL

To cancel the displayed timer data.

20 Data transmission TRANS

It transmits time and date or timer inputs into the video recorder.

21 Timer input SHOWVIEW

To enter the ShowView number for the very simple timer input.

22 Tape speed SP/LP

Select the tape speed for the recording:
SP: best image quality
LP: double recording time

23 Video Programme System VPS

To switch off VPS (PDC), e.g. for recording of several broadcasts with one timer programme (only when retrofitted).

24 Decoder mode TV/VTR

Switches the connected decoder, e.g. for PREMIERE, to TV or VTR mode. When the video recorder is switched off, the decoder will always work for the TV set.

25 Number buttons 0-9

For all number inputs. When selecting programme number 1 to 9, the selection will be made after two seconds. For 10 to 99, the second digit must be entered within two seconds.

26 Confirmation OK

The input of the ShowView number must be confirmed with this button.

27 On screen display DIS

Switches the on screen displays on and off.

28 Tracking TRACKING –/+

- To set the tracking manually during playback and slow motion.
- To reduce vertical trembling of still images.

29 Audio output AUDIO OUT

Selects the sound you hear during recording and playback, important for bilingual recordings.

30 Erase index VISS ERASE

It erases index markers.

31 Cassette type TAPE

To display the correct remaining tape time, the cassette type must be entered.

32 Set clock CLOCK/PRESET

- Set the clock of the remote control, press for more than 2 seconds.
- Assign ShowView guide numbers.
- Select remote control code.

33 Write index VISS MARK

Writes a marker for the index search.

34 Code selection VTR 1/2/3

The remote control can use different codes. You have to select the same setting with VTR (44)!

35 Eject cassette CASS

The cassette will even be removed when the video recorder is switched off.

36 Audio level control HIFI REC LEVEL

The correct record level is set with the sliders R/L.

37 Headphone volume

It controls the volume of a connected headphone.

38 Image sharpness SOFT-HARD

Control for the image sharpness during playback. Not working when AI (47) is ON.

39 Image stabilizing TBC

Fluttering playback images can be stabilized in position ON.

40 Wide image WIDE 16:9

The control of a TV screen with wide format can be made from the video recorder.

41 Input select INPUT SELECT

The front input will be switched to:
S-VIDEO: socket S-VIDEO IN (70).
LINE: socket VIDEO IN (71).

42 S-VHS/VHS recording S-VHS

If set to OFF, S-VHS tapes will only be recorded with VHS format.

43 Edit mode EDIT

When copying with control lead, the mode is selected:
PLAY: player
REC: recorder
OFF: for control through the second video.
Normal position is REC.

44 Code selection VTR

You must select the same setting as with VTR 1/2/3 (34) of the remote control.

45 Audio mixing AUDIO MIX

Only for playback of audio dubbed recordings, otherwise in position OFF.

46 Remote selection REMOTE

Receiver of the remote control signals is the TV set TV or the video recorder VTR.

47 Tape adaptation AI

Should always be set to ON. The recorder is perfectly adapting to the characteristics of the used tape.

48 Counter reset 0000

Resets the tape counter to zero. Cassette change resets the counter automatically.

49 Set clock CLOCK SET

To set the clock on the video recorder.

50 Station preset TUNER PRESET

Activates the station preset mode.

51 Sound recording MONO

OFF: standard setting
ON: to record the NICAM standard sound to the FM-HiFi-sound tracks.

52 Copy control PLAYER

Selects the player control during copying with control lead.

53 Copy control RECORDER

Selects the recorder control during copying with control lead.

English

Picture explanation

54 Shuttle ring

Center notch position for still image playback. To the right forward, to the left backward playback in variable slow motion up to image search.

55 Jog disc

Selects single images forward or backward if turned during still image playback.

56 Timer programme TIMER PROG

Selects a timer programme for input, check or clearing.

57 Tape speed SP/LP NEXT

- Selects recording in LP or SP.
- Selects the next input.

58 Sleep timer SLEEP SHIFT

- Enter time till switch off.
- Lock free programme numbers.

60 Dialog control MENU

Switches the on screen menu for cut and settings on and off. EDIT (43) must be standing at PLAY or REC.

61 Menu line selection ⟠

To select the desired menu line.

62 Selection ENTER

Selects the function selected in the menu.

63 Clear cut CLEAR

Clears a cutting programme.

64 Back ESC

Back to the last menu page.

65 Start editing MARK IN

Marks the start of the scene.

66 End editing MARK OUT

Marks the end of the scene.

70 Socket AV3 S-VIDEO IN

S-VHS input is selected with «A3», if INPUT SELECT (41) is in position S-VIDEO.

71 Socket AV3 VIDEO IN

Video input is selected with «A3», if INPUT SELECT (41) is in position LINE.

72 Sockets AV3 AUDIO IN L/R

Stereo sound input is selected with «A3».

73 Editing control EDIT

Socket for control lead to another video.

74 Synchro control SYNCHRO

For devices with synchro edit socket.

75 Microphone socket MIC

If you connect a microphone it will be ready for recording.

76 Headphone socket ⍾

For a headphone with 3.5mm plug and an impedance of at least 8 Ohms.

77 Antenna output RF OUT

Should be connected to the antenna input of the TV set.

78 Antenna input RF IN

Connects to your antenna system.

79 Adjust channel CH ADJ

The video recorder's transmitter channel can be adjusted between channel 32 and 40. Factory setting is channel 36.

80 Euro socket AV1 EURO AV

Connects to the TV set. For recordings «A1» must be selected.

81 Input/decoder AV2

- Euro socket to connect external devices. For recordings «A2» must be selected.
- Decoder connection for decoding of e.g. PREMIERE or CANAL PLUS.

82 Video output, test signal

Switch with three positions:
NORMAL: AV1 with normal video image.
S-VIDEO OUT: AV1 with S-VHS video image.
TEST SIGNAL:for presetting the TV set.

83 Sound output AUDIO OUT R/L

Stereo sound output to connect a hifi system.

84 Image output VIDEO OUT

Normal video image to connect a second video recorder.

85 Image output S-VIDEO OUT

S-VHS video image to connect a second video recorder.

86 Mains connection AC IN ~

Socket for the mains lead to be connected to mains with 220/230 Volts AC.

Trouble shooting

Should your video recorder some day do not work as it is supposed to do, you should first try to locate the fault with the help of the listing below. Quite often there are small reasons for big problems.

No function of the remote control

- Point it to the receiver
- Switch REMOTE (46) to VTR
- Set VTR (34,44) to the same number
- Switch the video on with TIMER (17) if a timer programme is put in
- Exchange the batteries, check the correct position

No function of the video recorder

- Connect mains lead
- Switch the video on with TIMER (17) if a timer programme is put in
- Remove the video from mains for more than 1 minute
- Moisture in the video, wait 1 hour.

No playback images

- Select the AV programme number on the TV set
- Insert a prerecorded cassette
- Check the connections
- Switch off TEST SIGNAL (82)

Distorted playback

- Control tracking with TRACKING –/+ (28)
- Fine tune the AV reception on the TV set
- Allow the tape mechanism to be cleaned

No colour playback

- Fine tune the AV reception on the TV set
- Set switch (82) to NORMAL
  or:
  Switch TV set to S-input and set switch (82) to S-VIDEO OUT.

Distorted recording

- Insert cassette ready for recording
- With A3 set INPUT SELECT (41)

No timer recording

- Date and time were set wrong
- You did not enter the exact VPS start time (if VPS or PDC are featured)
- You did not switch off with TIMER (17)
- There was a longer power interruption
- No cassette ready for recording inserted
- The broadcast was not transmitted

ShowView problems

- Set exact time and date
- Assign guide number to the programme number.

No hifi sound

- Set HIFI REC LEVEL (36) during recording
- Select «L+R» with AUDIO OUT (29)
- AUDIO MIX (45) must be standing at OFF
- Control tracking with TRACKING –/+ (28)
- Turn up volume on the TV set

Two languages simultaneously

- Set AUDIO OUT (29) to «L» or «R»
- Set AUDIO MIX (45) to OFF

0:00 is flashing in the display

- Set the clock after power interruption

No TV remote control

- Point to the receiver
- Select TV code with PRESET (32)
- No code for your TV set

Weak TV image

- Connect video recorder to mains
- Set AV programme number correctly
- Check antenna connection

English

Specifications

Tape format:	S-VHS/VHS video tapes
Rotating heads:	4 video heads, 2 hifi stereo, 1 erase head
Tape speed:	SP: 23,39 mm/sec, LP: 11,7 mm/sec
Maximum playing time:	SP: 300 / LP: 600 minutes with E 300
Receiving system:	PAL B/G, 625 lines CCIR
Recording system:	PAL
Playback system:	PAL, MESECAM, NTSC/PAL 60 Hz
Channel assignment:	02-12 = E2-E12 21-69 = 21-69 74-76 = S1-S3 80-82 = M1-M3 83-89 = S4-S10/M4-M10 90-99 = S11-S20/U1-U10 121-141 = S21-S41 hyperband 8 MHz
Transmitter channel:	UHF channel 36, variable K 32-40
Video input:	AV1/AV2/AV3: 1,0 Vss at 75 Ohm
Video output:	AV1/AV2/AV3: 1,0 Vss at 75 Ohm
Horizontal resolution:	S-VHS: better than 400 lines VHS: better than 240 lines
Audio input:	AV1/2: -6 dBV, more than 10 kOhm AV3 : -10 dBV, more than 47 kOhm MIC : -70 dBV mono
Audio output:	AV1/2: -6 dBV, less than 1 kOhm AV3 : -8 dBV, less than 1 kOhm Headphone: -30 dBV, at least 8 Ohm
Hifi S/N ratio:	more than 90 dB
Hifi frequency range:	20 to 20000 Hz
Hifi wow and flutter:	0,005 % nominal
Surrounding temperature:	5°C to 40°C
Humidity:	35% to 80%
Power supply:	220 V AC ± 10 %, 50 Hz
Power consumption:	41 Watts
Weight:	7,4 kg
Dimensions WxHxD:	43 x 12 x 40 cm
Extent of supply:	remote control with batteries antenna lead, control lead stereo sound lead mains lead, S-video lead
Available accessory:	Digital Link, art.-no. 84630 L01 Retrofit kit VPS, art.-no. 86687 Retrofit kit PDC, art.-no. 86686

Subject to modification

Glossary

We have tried to use as few special terms as possible and explain them whenever they are used for the first time. Nevertheless, the following summary might be helpful:

AI: computer controlled tape adaptation during record and automatically optimized noise reduction during playback.

Assembling: electronic cutting (editing) during copying. It allows the shortening of scenes without distortions at the begin.

Audio: international expression for sound.

AV: audio visual, sound and image.

Code: encoding scheme, e.g. for the transmission signals of the remote control.

Decoder: device which decodes encrypted signals, e.g. PREMIERE.

Dialog Control: user interface on the screen. Complicated functions like the selection of cuts are simplified.

Display: indication panel for control feedback.

Dolby Surround: the ultimate sound adventure with additional speakers in the rear. Many films contain encoded sound signals in the stereo sound. They are recorded. To play them back, you will need a Surround decoder and a hifi system.

Edit: editing, electronic cutting.

Euro-AV: standardized 21-pole connector for image and sound signals.

Impedance: inner resistance of sound or image connectors.

Index: The standardized VHS search system VISS records electronic markers to the begin of each recording. The index search can then be used to locate these beginnings.

Infrared: the transmission of the remote control's signals is made with infrared light.

Insert: a new recording is inserted into an already existing, without distortions at the begin or at the end.

Jog-shuttle: often used term for the turning knob for single image selection (jog) and for the ring which allows comfortable control of the image search (shuttle).

Longplay LP: recording and playback with half tape speed.

Menu: selection of different controls on the screen.

MESECAM: tape recording standard for SECAM colour onto the PAL colour carrier.

NICAM: digital stereo sound system, used in some West/Southwest European countries.

NTSC: colour system in the USA and in Japan. Playback is possible with this video.

OSD: On Screen Display, display on the TV's screen. The screen is used to aid the control with notes, informations and graphics.

PAL: tape recording standard, used in western Europe with the exception of France.

PAL B/G: colour receive standard, used in western Europe with the exception of France.

ShowView number: number used for timer inputs. It contains the encoded station guide number, date, start and end time of a broadcast. It can be found in TV-magazines for each broadcast.

ShowView guide number: guide number for each broadcasting station. The different language regions use different guide numbers. You have to assign them to the programme numbers once.

Standard play SP: normal tape speed with highest image quality.

S-VHS: super VHS with improved image quality compared to VHS. It allows the recording of TV broadcasts without any visible quality loss. S-recordings can not be played back with video recorders which do not feature S-VHS.

Synchro edit: connection between two videos for editing control. There is no standard. Thus only few videos harmonize, even when they feature the corresponding sockets.

TBC: Time Base Correction, ensures stable images, even when playing back weak recordings.

Timer: allows the automatic recording of broadcasts.

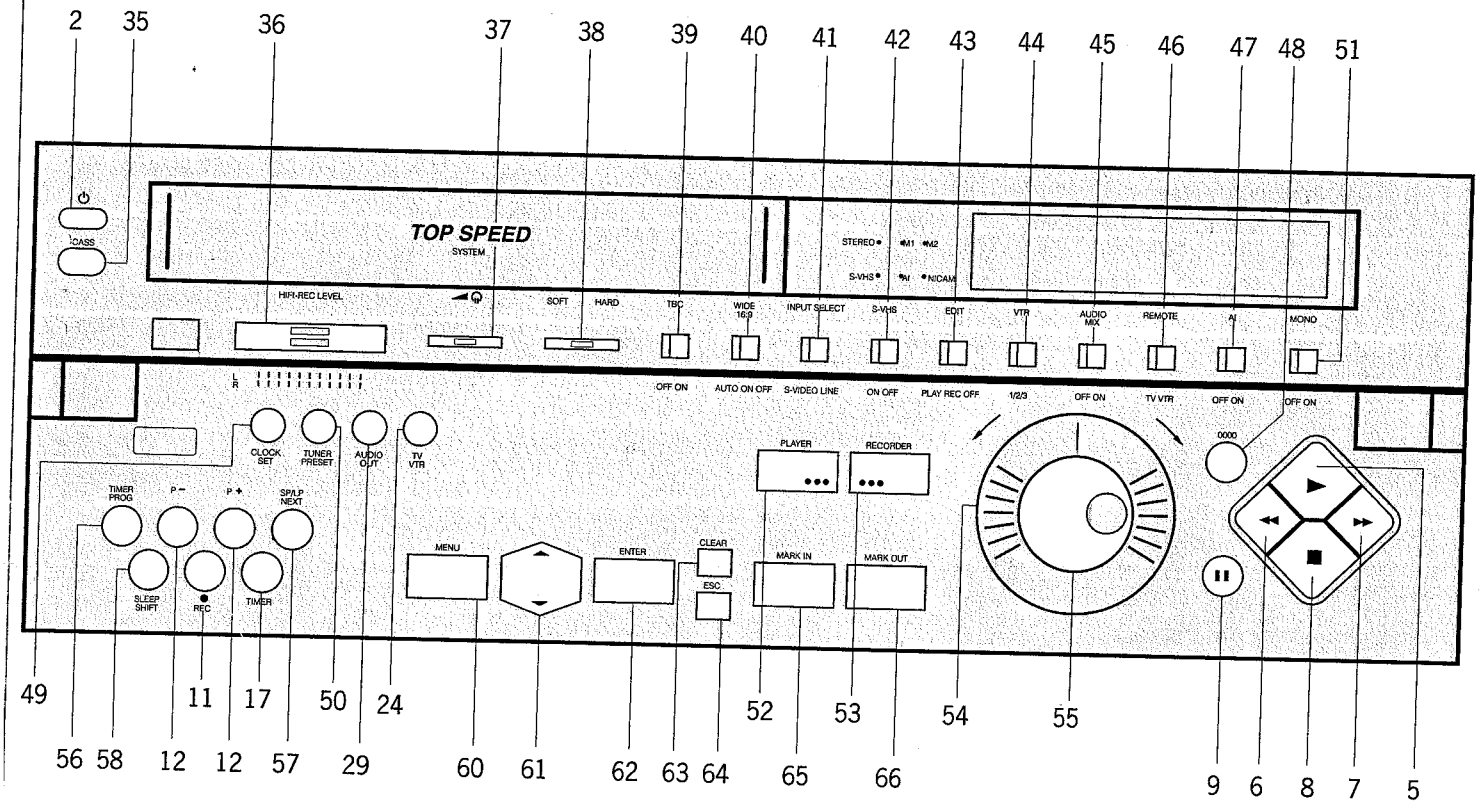
Tracking: the recorded magnetic track must be located and played back exactly.

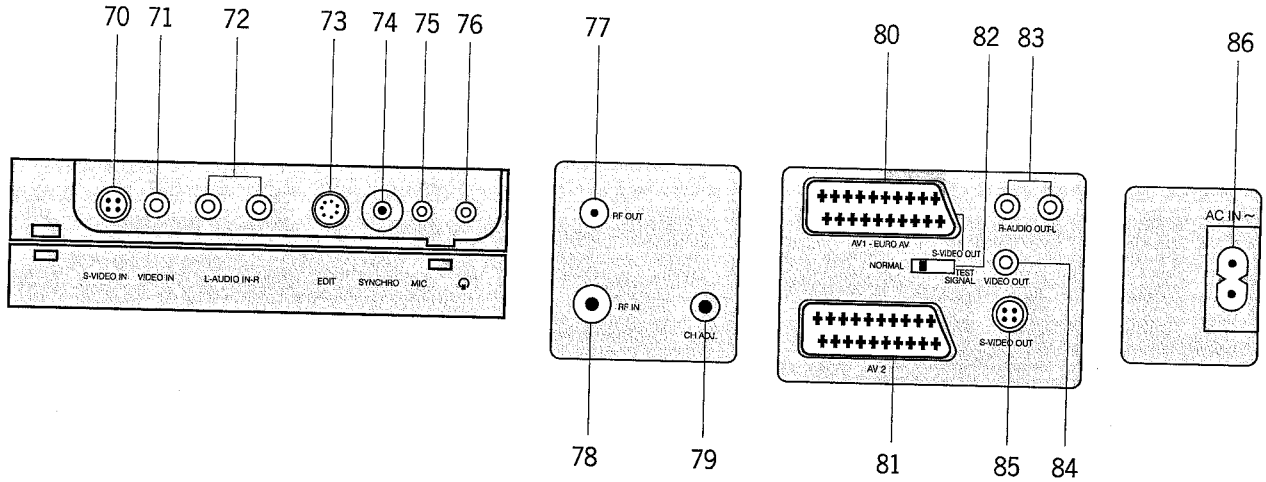
Video: international term for image.

VPS/PDC: Video Programme System, which assigns a VPS number to each transmitted broadcast. This allows the video recorder to make exact timer recordings, even when the broadcasts are shifted. Recordings made from stations which do not feature VPS will always be made at the programmed timer time.

Index register

AI 73,91
antenna connection 69
antenna lead 68
assembling 81,84,91
audio dubbing 82,83,84
audio level setting 77
audio playback 73
AV programme number 69
batteries 70
bilingual recording 77
brief description 66,67
cassette selection 76
channel input 75
cleaning 64
connection 68
copying 81,83
copyright laws 81
correction of the time 71
decoder 68,77
Dialog Control 80,91
display 67
Dolby Surround 73,91
editing preview 85
editing review 85
editing control 85
features 65
fine tuning 75
front cover 72
glossary 91
guide number 79
headphone 74
hifi system 68
image search 72
image search sound 80
immediate recording 76
index erase 77
index recording 77
index register 92
index search system 74
inserting 82,83,84
installation 67
jog disc 73
jog-shuttle 91
language 80
Loewe service 153
lock programme numbers 75
mains 68
maintenance 64
manual cutting 83
MESECAM 73,91
microphone 68
NICAM 77,91
NTSC 73,91
on screen display 67,77
on screen language 80
OSD demonstration 80
PAL 73,75,91
pause 73
PDC 78,90,91
picture explanation 86-88
playback 72-74
playback standard 73
power interruption 71
programme editing 84
recording 76,77
remaining tape time 74
remote control 70
S-video 68
safety 64
satellite receiver 76
satellite reception 68
SECAM 73,75,91
setting date and time 71
sharpness 72
ShowView 78
shuttle ring 73
sleep timer 78
slow motion 73
sound monitoring 77
sound recording 77
specifications 90
station preset 75
station search 75
stereo 77
still image 73
synchronized copy 81
tape counter 74
TBC 73,91
thunder storm 68
time change 71
timer recording 78,79
timing adjustment 85
tracking 72
transmitter 69
trouble shooting 89
TV set 68,69,76
unpacking 67
vertical trembling 73
video connection 69
video head cleaning 64
video recorder 68
VISS 74,91
VPS 78,90,91
wide screen 74
winding 72


TOP SPEED
SYSTEM
CASS
HI-FI-REC LEVEL
SOFT
HARD
TBC
WIDE 16:9
INPUT SELECT
S-VHS
EDIT
VTR
AUDIO MIX
REMOTE
AI
MONO
OFF ON
AUTO ON OFF
S-VIDEO LINE
ON OFF
PLAY REC OFF
1/2/3
OFF ON
TV VTR
OFF ON
OFF ON
CLOCK SET
TUNER PRESET
AUDIO OUT
TV VTR
PLAYER
RECORDER
TIMER PROG
P −
P +
SP/LP NEXT
MENU
ENTER
CLEAR
ESC
MARK IN
MARK OUT
SLEEP SHIFT
REC
TIMER
0000
49
56
58
12
11
12
17
57
50
29
24
60
61
62
63
64
52
65
53
66
54
55
9
6
8
7
5


S-VIDEO IN
VIDEO IN
L-AUDIO IN-R
EDIT
SYNCHRO
MIC
RF OUT
RF IN
CH ADJ.
AV1 - EURO AV
NORMAL
S-VIDEO OUT
TEST SIGNAL
R-AUDIO OUT-L
VIDEO OUT
S-VIDEO OUT
AV 2
AC IN~
70
71
72
73
74
75
76
77
80
82
83
86
78
79
81
85
84